

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket No: 084335/0120

In patent application of
ARAI, KEN-ICHI et al.

Serial No. 09/550,115

Filed: April 14, 2000

NF-AT DERIVED POLYPEPTIDES THAT BIND CALCINEURIN AND USES THEREOF



STATEMENT TO SUPPORT FILING AND SUBMISSION IN
ACCORDANCE WITH 37 C.F.R. §§ 1.821-1.825

Assistant Commissioner for Patents
Washington, D.C. 20231
Box SEQUENCE

Sir:

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TECH CENTER 1600/2900

In connection with a Sequence Listing submitted concurrently herewith, the undersigned hereby states that:

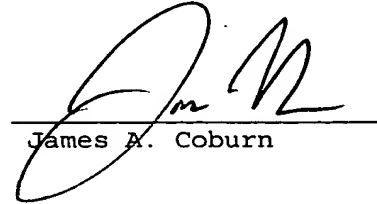
1. the submission, filed herewith in accordance with 37 C.F.R. § 1.821(g), does not include new matter;
2. the content of the attached paper copy and the attached computer readable copy of the Sequence Listing, submitted in accordance with 37 C.F.R. § 1.821(c) and (e), respectively, are the same; and
3. all statements made herein of their own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United

States Code and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

Respectfully submitted,


Date

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SEQUENCE LISTING

TECH CENTER 1600/2900

<110> ARABEN, KEN-LEUNG
LIU, JIE

<120> NF-AT DERIVED POLYPEPTIDES THAT BIND CALCINEURIN AND
USES THEREOF

<130> 084335/0120

<140> 09/550,115

<141> 2000-04-14

<160> 11

<170> PatentIn Ver. 2.1

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<212> PRT

<213> Mus musculus

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35 40 45

Val Leu Ser Pro Ser Phe Gln Leu Gln Ser His Lys Asn Tyr Glu Gly
50 55 60

Thr Cys Glu Ile Pro Glu Ser Lys Tyr Ser Pro Leu Gly Gly Pro Lys
65 70 75 80

Pro Phe Glu Cys Pro Ser Ile Gln Phe Thr Ser Ile Ser Pro Asn Cys
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Gln Gln Glu Leu Asp Ala His Glu Asp Asp Leu Gln Ile Asn Asp Pro
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Glu Arg Glu Phe Leu Glu Arg
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<211> 86

<212> PRT

<213> Mus musculus

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Gly Lys Leu Glu Ile Cys Ser Asp Asp Gln Gly Asn Leu Ser Pro Ser
 35 40 45

Arg Glu Thr Ser Val Asp Asp Gly Leu Gly Ser Gln Tyr Pro Leu Lys
 50 55 60

Lys Asp Ser Ser Gly Asp Gln Phe Leu Ser Val Pro Ser Pro Phe Thr
 65 70 75 80

Trp Ser Lys Pro Lys Pro
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 <212> PRT
 <213> Homo sapiens

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Glu Pro Asp Asp Cys Ala Ser Ile Tyr Ile Phe Asn Val Asp Pro Pro
 20 25 30

Pro Ser Thr Leu Thr Thr Pro Leu Cys Leu Pro His His Gly Leu Pro
 35 40 45

Ser His Ser Ser Val Leu Ser Pro Ser Phe Gln Leu Gln Ser His Lys
 50 55 60

Asn Tyr Glu Gly Thr Cys Glu Ile Pro Glu Ser Lys Tyr Ser Pro Leu
 65 70 75 80

Gly Gly Pro Lys Pro Phe Glu Cys Pro Ser Ile Gln Ile Thr Ser Ile
 85 90 95

Ser Pro Asn Cys His Gln Glu Leu Asp Ala His Glu Asp Asp Leu Gln
 100 105 110

Ile Asn Asp Pro Glu Arg Glu Phe Leu Glu Arg
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 <212> PRT
 <213> Homo sapiens

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Gly Lys Leu Glu Leu Cys Ser Asp Asp Gln Gly Ser Leu Ser Pro Ala
 35 40 45
 Arg Glu Thr Ser Ile Asp Asp Gly Leu Gly Ser Gln Tyr Pro Leu Lys
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 Lys Asp Ser Cys Gly Asp Gln Phe Leu Ser Val Pro Ser Pro Phe Thr
 65 70 75 80
 Trp Ser Lys Pro Lys Pro
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 <211> 559
 <212> PRT
 <213> Murine sp.

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 Val Phe Gly Glu Asp Gly Ala Pro Ala Pro Pro Pro Gly Ser Arg
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 Pro Ala Asp Leu Glu Pro Asp Asp Cys Ala Ser Ile Tyr Ile Phe Asn
 35 40 45
 Val Asp Pro Pro Pro Ser Thr Leu Thr Thr Pro Leu Cys Leu Pro His
 50 55 60
 His Gly Leu Pro Ser His Ser Ser Val Leu Ser Pro Ser Phe Gln Leu
 65 70 75 80
 Gln Ser His Lys Asn Tyr Glu Gly Thr Cys Glu Ile Pro Glu Ser Lys
 85 90 95
 Tyr Ser Pro Leu Gly Gly Pro Lys Pro Phe Glu Cys Pro Ser Ile Gln
 100 105 110
 Phe Thr Ser Ile Ser Pro Asn Cys Gln Gln Glu Leu Asp Ala His Glu
 115 120 125
 Asp Asp Leu Gln Ile Asn Asp Pro Glu Arg Glu Phe Leu Glu Arg Pro
 130 135 140
 Ser Arg Asp His Leu Tyr Leu Pro Leu Glu Pro Ser Tyr Arg Glu Ser
 145 150 155 160
 Ser Leu Ser Pro Ser Pro Ala Ser Ser Ile Ser Ser Arg Ser Trp Phe
 165 170 175
 Ser Asp Ala Ser Ser Cys Glu Ser Leu Ser His Ile Tyr Asp Asp Val
 180 185 190
 Asp Ser Glu Leu Asn Glu Ala Ala Ala Arg Phe Thr Leu Gly Ser Pro
 195 200 205

Leu Thr Ser Pro Gly Gly Ser Pro Gly Gly Cys Pro Gly Glu Glu Ser
 210 215 220
 Trp His Gln Gln Tyr Gly Ser Gly His Ser Leu Ser Pro Arg Gln Ser
 225 230 235 240
 Pro Cys His Ser Pro Arg Ser Ser Ile Thr Asp Glu Asn Trp Leu Ser
 245 250 255
 Pro Arg Pro Ala Ser Gly Pro Ser Ser Arg Pro Thr Ser Pro Cys Gly
 260 265 270
 Lys Arg Arg His Ser Ser Ala Glu Val Cys Tyr Ala Gly Ser Leu Ser
 275 280 285
 Pro His His Ser Pro Val Pro Ser Pro Gly His Ser Pro Arg Gly Ser
 290 295 300
 Val Thr Glu Asp Thr Trp Leu Thr Ala Pro Val His Thr Gly Ser Gly
 305 310 315 320
 Leu Ser Pro Ala Pro Phe Pro Phe Gln Tyr Cys Val Glu Thr Asp Ile
 325 330 335
 Pro Leu Lys Thr Arg Lys Thr Ser Glu Asp Gln Ala Ala Ile Leu Pro
 340 345 350
 Gly Lys Leu Glu Ile Cys Ser Asp Asp Gln Gly Asn Leu Ser Pro Ser
 355 360 365
 Arg Glu Thr Ser Val Asp Asp Gly Leu Gly Ser Gln Tyr Pro Leu Lys
 370 375 380
 Lys Asp Ser Ser Gly Asp Gln Phe Leu Ser Val Pro Ser Pro Phe Thr
 385 390 395 400
 Trp Ser Lys Pro Lys Pro Gly His Thr Pro Ile Phe Arg Thr Ser Ser
 405 410 415
 Leu Pro Pro Leu Asp Trp Pro Leu Pro Thr His Phe Gly Gln Cys Glu
 420 425 430
 Leu Lys Ile Glu Val Gln Pro Lys Thr His His Arg Ala His Tyr Glu
 435 440 445
 Thr Glu Gly Ser Arg Gly Ala Val Lys Ala Ser Thr Gly Gly His Pro
 450 455 460
 Val Val Lys Leu Leu Gly Tyr Ser Glu Lys Pro Ile Asn Leu Gln Met
 465 470 475 480
 Phe Ile Gly Thr Ala Asp Asp Arg Tyr Leu Arg Pro His Ala Phe Tyr
 485 490 495
 Gln Val His Arg Ile Thr Gly Lys Thr Val Ala Thr Ala Ser Gln Glu
 500 505 510

Ile Ile Ile Ala Ser Thr Lys Val Leu Glu Ile Pro Leu Leu Pro Glu
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Asn Ser Asp Ile Glu Leu Arg Lys Gly Glu Thr Asp Ile Gly Arg
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<212> PRT
<213> Homo sapiens

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20 25 30

Pro Ala Asp Leu Glu Pro Asp Asp Cys Ala Ser Ile Tyr Ile Phe Asn
35 40 45

Val Asp Pro Pro Pro Ser Thr Leu Thr Thr Pro Leu Cys Leu Pro His
50 55 60

His Gly Leu Pro Ser His Ser Ser Val Leu Ser Pro Ser Phe Gln Leu
65 70 75 80

Gln Ser His Lys Asn Tyr Glu Gly Thr Cys Glu Ile Pro Glu Ser Lys
85 90 95

Tyr Ser Pro Leu Gly Gly Pro Lys Pro Phe Glu Cys Pro Ser Ile Gln
100 105 110

Ile Thr Ser Ile Ser Pro Asn Cys His Gln Glu Leu Asp Ala His Glu
115 120 125

Asp Asp Leu Gln Ile Asn Asp Pro Glu Arg Glu Phe Leu Glu Arg Pro
130 135 140

Ser Arg Asp His Leu Tyr Leu Pro Leu Glu Pro Ser Tyr Arg Glu Ser
145 150 155 160

Ser Leu Ser Pro Ser Pro Ala Ser Ser Ile Ser Ser Arg Ser Trp Phe
165 170 175

Ser Asp Ala Ser Ser Cys Glu Ser Leu Ser His Ile Tyr Asp Asp Val
180 185 190

Asp Ser Glu Leu Asn Glu Ala Ala Arg Phe Thr Leu Gly Ser Pro
195 200 205

Leu Thr Ser Pro Gly Gly Ser Pro Gly Gly Cys Pro Gly Glu Glu Thr
210 215 220

Trp His Gln Gln Tyr Gly Leu Gly His Ser Leu Ser Pro Arg Gln Ser
 225 230 235 240
 Pro Cys His Ser Pro Arg Ser Ser Val Thr Asp Glu Asn Trp Leu Ser
 245 250 255
 Pro Arg Pro Ala Ser Gly Pro Ser Ser Arg Pro Thr Ser Pro Cys Gly
 260 265 270
 Lys Arg Arg His Ser Ser Ala Glu Val Cys Tyr Ala Gly Ser Leu Ser
 275 280 285
 Pro His His Ser Pro Val Pro Ser Pro Gly His Ser Pro Arg Gly Ser
 290 295 300
 Val Thr Glu Asp Thr Trp Leu Asn Ala Ser Val His Gly Gly Ser Gly
 305 310 315 320
 Leu Gly Pro Ala Val Phe Pro Phe Gln Tyr Cys Val Glu Thr Asp Ile
 325 330 335
 Pro Leu Lys Thr Arg Lys Thr Ser Glu Asp Gln Ala Ala Ile Leu Pro
 340 345 350
 Gly Lys Leu Glu Leu Cys Ser Asp Asp Gln Gly Ser Leu Ser Pro Ala
 355 360 365
 Arg Glu Thr Ser Ile Asp Asp Gly Leu Gly Ser Gln Tyr Pro Leu Lys
 370 375 380
 Lys Asp Ser Cys Gly Asp Gln Phe Leu Ser Val Pro Ser Pro Phe Thr
 385 390 395 400
 Trp Ser Lys Pro Lys Pro Gly His Thr Pro Ile Phe Arg Thr Ser Ser
 405 410 415
 Leu Pro Pro Leu Asp Trp Pro Leu Pro Ala His Phe Gly Gln Cys Glu
 420 425 430
 Leu Lys Ile Glu Val Gln Pro Lys Thr His His Arg Ala His Tyr Glu
 435 440 445
 Thr Glu Gly Ser Arg Gly Ala Val Lys Ala Ser Thr Gly Gly His Pro
 450 455 460
 Val Val Lys Leu Leu Gly Tyr Asn Glu Lys Pro Ile Asn Leu Gln Met
 465 470 475 480
 Phe Ile Gly Thr Ala Asp Asp Arg Tyr Leu Arg Pro His Ala Phe Tyr
 485 490 495
 Gln Val His Arg Ile Thr Gly Lys Thr Val Ala Thr Ala Ser Gln Glu
 500 505 510
 Ile Ile Ile Ala Ser Thr Lys Val Leu Glu Ile Pro Leu Leu Pro Glu
 515 520 525

Asn Asn Met Ser Ala Ser Ile Asp Cys Ala Gly Ile Leu Lys Leu Arg
 530 535 540

Asn Ser Asp Ile Glu Leu Arg Lys Gly Glu Thr Asp Ile Gly Arg
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<210> 7

<211> 549

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Murine/Human
 NFATc3

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Arg Pro Gly Pro Ser Asp Leu Asp Leu Glu Pro Asp Asp Cys Ala Ser
 20 25 30

Ile Tyr Ile Phe Asn Val Asp Pro Pro Pro Ser Thr Leu Asn Ser Ser
 35 40 45

Leu Gly Leu Pro His His Gly Leu Leu Gln Ser His Ser Ser Val Leu
 50 55 60

Ser Pro Ser Phe Gln Leu Gln Gly Tyr Lys Asn Tyr Glu Gly Thr Gly
 65 70 75 80

Asp Ile Ser Glu Ser Lys Tyr Ser Pro Leu Gly Gly Pro Lys Pro Phe
 85 90 95

Glu Cys Pro Ser Ile Gln Ile Thr Ser Ile Ser Pro Asn Cys His Gln
 100 105 110

Gly Thr Asp Ala His Glu Asp Asp Leu His Ile Asn Asp Pro Glu Arg
 115 120 125

Glu Tyr Leu Glu Arg Pro Ser Arg Asp His Leu Tyr Leu Pro Leu Glu
 130 135 140

Pro Ser Tyr Arg Glu Ser Ser Leu Ser Pro Ser Pro Ala Ser Ser Ile
 145 150 155 160

Ser Ser Arg Ser Trp Phe Ser Asp Ala Ser Ser Cys Glu Ser Leu Ser
 165 170 175

His Ile Tyr Asp Asp Val Asp Ser Glu Leu Asn Glu Ala Ala Ala Arg
 180 185 190

Phe Thr Leu Gly Ser Pro Leu Thr Ser Pro Gly Gly Ser Pro Gly Gly
 195 200 205

Cys Pro Gly Glu Glu Ser Trp His Gln Gln Tyr Gly Ser Gly His Ser
 210 215 220

Leu Ser Pro Arg Gln Ser Pro Cys His Ser Pro Arg Ser Ser Ile Thr
 225 230 235 240
 Asp Glu Asn Trp Leu Ser Pro Arg Pro Ala Ser Gly Pro Ser Ser Arg
 245 250 255
 Pro Thr Ser Pro Cys Gly Lys Arg Arg His Ser Ser Ala Glu Val Cys
 260 265 270
 Tyr Ala Gly Ser Leu Ser Pro His His Ser Pro Val Pro Ser Pro Gly
 275 280 285
 His Ser Pro Arg Gly Ser Val Thr Glu Asp Thr Trp Leu Thr Ala Pro
 290 295 300
 Val His Thr Gly Ser Gly Leu Ser Pro Ala Pro Phe Pro Phe Gln Tyr
 305 310 315 320
 Cys Val Glu Thr Asp Ile Pro Leu Lys Thr Arg Lys Thr Ser Glu Asp
 325 330 335
 Gln Ala Ala Ile Leu Pro Gly Lys Leu Glu Ile Cys Ser Asp Asp Gln
 340 345 350
 Gly Asn Leu Ser Pro Ser Arg Glu Thr Ser Val Asp Asp Gly Leu Gly
 355 360 365
 Ser Gln Tyr Pro Leu Lys Lys Asp Ser Ser Gly Asp Gln Phe Leu Ser
 370 375 380
 Val Pro Ser Pro Phe Thr Trp Ser Lys Pro Lys Pro Gly His Thr Pro
 385 390 395 400
 Ile Phe Arg Thr Ser Ser Leu Pro Pro Leu Asp Trp Pro Leu Pro Thr
 405 410 415
 His Phe Gly Gln Cys Glu Leu Lys Ile Glu Val Gln Pro Lys Thr His
 420 425 430
 His Arg Ala His Tyr Glu Thr Glu Gly Ser Arg Gly Ala Val Lys Ala
 435 440 445
 Ser Thr Gly Gly His Pro Val Val Lys Leu Leu Gly Tyr Ser Glu Lys
 450 455 460
 Pro Ile Asn Leu Gln Met Phe Ile Gly Thr Ala Asp Asp Arg Tyr Leu
 465 470 475 480
 Arg Pro His Ala Phe Tyr Gln Val His Arg Ile Thr Gly Lys Thr Val
 485 490 495
 Ala Thr Ala Ser Gln Glu Ile Ile Ile Ala Ser Thr Lys Val Leu Glu
 500 505 510
 Ile Pro Leu Leu Pro Glu Asn Asn Met Ser Ala Ser Ile Asp Cys Ala
 515 520 525

Gly Ile Leu Lys Leu Arg Asn Ser Asp Ile Glu Leu Arg Lys Gly Glu
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Thr Asp Ile Gly Arg
 545

<210> 8

<211> 395

<212> PRT

<213> Homo sapiens

<400> 8

Met Asn Ala Pro Glu Arg Gln Pro Gln Pro Asp Gly Gly Asp Ala Pro
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Gly His Glu Pro Gly Gly Ser Pro Gln Asp Glu Leu Asp Phe Ser Ile
 20 25 30

Leu Phe Asp Tyr Glu Tyr Leu Asn Pro Asn Glu Glu Glu Pro Asn Ala
 35 40 45

His Lys Val Ala Ser Pro Pro Ser Gly Pro Ala Tyr Pro Asp Asp Val
 50 55 60

Met Asp Tyr Gly Leu Lys Pro Tyr Ser Pro Leu Ala Ser Leu Ser Gly
 65 70 75 80

Glu Pro Pro Gly Arg Phe Gly Glu Pro Asp Arg Val Gly Pro Gln Lys
 85 90 95

Phe Leu Ser Ala Ala Lys Pro Ala Gly Ala Ser Gly Leu Ser Pro Arg
 100 105 110

Ile Glu Ile Thr Pro Ser His Glu Leu Ile Gln Ala Val Gly Pro Leu
 115 120 125

Arg Met Arg Asp Ala Gly Leu Leu Val Glu Gln Pro Pro Leu Ala Gly
 130 135 140

Val Ala Ala Ser Pro Arg Phe Thr Leu Pro Val Pro Gly Phe Glu Gly
 145 150 155 160

Tyr Arg Glu Pro Leu Cys Leu Ser Pro Ala Ser Ser Gly Ser Ser Ala
 165 170 175

Ser Phe Ile Ser Asp Thr Phe Ser Pro Tyr Thr Ser Pro Cys Val Ser
 180 185 190

Pro Asn Asn Gly Gly Pro Asp Asp Leu Cys Pro Gln Phe Gln Asn Ile
 195 200 205

Pro Ala His Tyr Ser Pro Arg Thr Ser Pro Ile Met Ser Pro Arg Thr
 210 215 220

Ser Leu Ala Glu Asp Ser Cys Leu Gly Arg His Ser Pro Val Pro Arg
 225 230 235 240

Pro Ala Ser Arg Ser Ser Ser Pro Gly Ala Lys Arg Arg His Ser Cys
 245 250 255
 Ala Glu Ala Leu Val Ala Leu Pro Pro Gly Ala Ser Pro Gln Arg Ser
 260 265 270
 Arg Ser Pro Ser Pro Gln Pro Ser Ser His Val Ala Pro Gln Asp His
 275 280 285
 Gly Ser Pro Ala Gly Tyr Pro Pro Val Ala Gly Ser Ala Val Ile Met
 290 295 300
 Asp Ala Leu Asn Ser Leu Ala Thr Asp Ser Pro Cys Gly Ile Pro Pro
 305 310 315 320
 Lys Met Trp Lys Thr Ser Pro Asp Pro Ser Pro Val Ser Ala Ala Pro
 325 330 335
 Ser Lys Ala Gly Leu Pro Arg His Ile Tyr Pro Ala Val Glu Phe Leu
 340 345 350
 Gly Pro Cys Glu Gln Gly Glu Arg Arg Asn Ser Ala Pro Glu Ser Ile
 355 360 365
 Leu Leu Val Pro Pro Thr Trp Pro Lys Pro Leu Val Pro Ala Ile Pro
 370 375 380
 Ile Cys Ser Ile Pro Val Thr Ala Ser Leu Pro
 385 390 395

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 <212> PRT
 <213> Homo sapiens

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 Ala Gly Gly Thr Met Lys Ser Ala Glu Glu Glu His Tyr Gly Tyr Ala
 35 40 45
 Ser Ser Asn Val Ser Pro Ala Leu Pro Leu Pro Thr Ala His Ser Thr
 50 55 60
 Leu Pro Ala Pro Cys His Asn Leu Gln Thr Ser Thr Pro Gly Ile Ile
 65 70 75 80
 Pro Pro Ala Asp His Pro Ser Gly Tyr Gly Ala Ala Leu Asp Gly Gly
 85 90 95
 Pro Ala Gly Tyr Phe Leu Ser Ser Gly His Thr Arg Pro Asp Gly Ala
 100 105 110

Pro Ala Leu Glu Ser Pro Arg Ile Glu Ile Thr Ser Cys Leu Gly Leu
 115 120 125
 Tyr His Asn Asn Asn Gln Phe Phe His Asp Val Glu Val Glu Asp Val
 130 135 140
 Leu Pro Ser Ser Lys Arg Ser Pro Ser Thr Ala Thr Leu Ser Leu Pro
 145 150 155 160
 Ser Leu Glu Ala Tyr Arg Asp Pro Ser Cys Leu Ser Pro Ala Ser Ser
 165 170 175
 Leu Ser Ser Arg Ser Cys Asn Ser Glu Ala Ser Ser Tyr Glu Ser Asn
 180 185 190
 Tyr Ser Tyr Pro Tyr Ala Ser Pro Gln Thr Ser Pro Trp Gln Ser Pro
 195 200 205
 Cys Val Ser Pro Lys Thr Thr Asp Pro Glu Glu Gly Phe Pro Arg Gly
 210 215 220
 Leu Gly Ala Cys Thr Leu Leu Gly Ser Pro Gln His Ser Pro Ser Thr
 225 230 235 240
 Ser Pro Arg Ala Ser Val Thr Glu Glu Ser Trp Leu Gly Ala Arg Ser
 245 250 255
 Ser Arg Pro Ala Ser Pro Cys Asn Lys Arg Lys Tyr Ser Leu Asn Gly
 260 265 270
 Arg Gln Pro Pro Tyr Ser Pro His His Ser Pro Thr Pro Ser Pro His
 275 280 285
 Gly Ser Pro Arg Val Ser Val Thr Asp Asp Ser Trp Leu Gly Asn Thr
 290 295 300
 Thr Gln Tyr Thr Ser Ser Ala Ile Val Ala Ala Ile Asn Ala Leu Thr
 305 310 315 320
 Thr Asp Ser Ser Leu Asp Leu Gly Asp Gly Val Pro Val Lys Ser Arg
 325 330 335
 Lys Thr Thr Leu Glu Gln Pro Pro Ser Val Ala Leu Lys Val Glu Pro
 340 345 350
 Val Gly Glu Asp Leu Gly Ser Pro Pro Pro Pro Ala Asp Phe Ala Pro
 355 360 365
 Glu Asp Tyr Ser Ser Phe Gln His Ile Arg Lys Gly Gly Phe Cys Asp
 370 375 380
 Gln Tyr Leu Ala Val Pro Gln His Pro Tyr Gln Trp Ala Lys Pro Lys
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 Pro Leu Ser Pro Thr Ser Tyr Met Ser Pro Thr Leu Pro
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 <213> Homo sapiens.

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Val	Asp	Pro	Pro	Pro	Ser	Thr	Leu	Thr	Thr	Pro	Leu	Cys	Leu	Pro	His
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His	Gly	Leu	Pro	Ser	His	Ser	Ser	Val	Leu	Ser	Pro	Ser	Phe	Gln	Leu
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Gln	Ser	His	Lys	Asn	Tyr	Glu	Gly	Thr	Cys	Glu	Ile	Pro	Glu	Ser	Lys
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Tyr	Ser	Pro	Leu	Gly	Gly	Pro	Lys	Pro	Phe	Glu	Cys	Pro	Ser	Ile	Gln
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Ile	Thr	Ser	Ile	Ser	Pro	Asn	Cys	His	Gln	Glu	Leu	Asp	Ala	His	Glu
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Asp	Asp	Leu	Gln	Ile	Asn	Asp	Pro	Glu	Arg	Glu	Phe	Leu	Glu	Arg	Pro
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Ser	Arg	Asp	His	Leu	Tyr	Leu	Pro	Leu	Glu	Pro	Ser	Tyr	Arg	Glu	Ser
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Ser	Leu	Ser	Pro	Ser	Pro	Ala	Ser	Ser	Ile	Ser	Ser	Arg	Ser	Trp	Phe
			165						170					175	
Ser	Asp	Ala	Ser	Ser	Cys	Glu	Ser	Leu	Ser	His	Ile	Tyr	Asp	Asp	Val
		180						185					190		
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Leu	Thr	Ser	Pro	Gly	Gly	Ser	Pro	Gly	Gly	Cys	Pro	Gly	Glu	Glu	Thr
	210					215					220				
Trp	His	Gln	Gln	Tyr	Gly	Leu	Gly	His	Ser	Leu	Ser	Pro	Arg	Gln	Ser
	225				230					235					240
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Pro	Arg	Pro	Ala	Ser	Gly	Pro	Ser	Ser	Arg	Pro	Thr	Ser	Pro	Cys	Gly
		260						265					270		

Lys Arg Arg His Ser Ser Ala Glu Val Cys Tyr Ala Gly Ser Leu Ser
 275 280 285
 Pro His His Ser Pro Val Pro Ser Pro Gly His Ser Pro Arg Gly Ser
 290 295 300
 Val Thr Glu Asp Thr Trp Leu Asn Ala Ser Val His Gly Gly Ser Gly
 305 310 315 320
 Leu Gly Pro Ala Val Phe Pro Phe Gln Tyr Cys Val Glu Thr Asp Ile
 325 330 335
 Pro Leu Lys Thr Arg Lys Thr Ser Glu Asp Gln Ala Ala Ile Leu Pro
 340 345 350
 Gly Lys Leu Glu Leu Cys Ser Asp Asp Gln Gly Ser Leu Ser Pro Ala
 355 360 365
 Arg Glu Thr Ser Ile Asp Asp Gly Leu Gly Ser Gln Tyr Pro Leu Lys
 370 375 380
 Lys Asp Ser Cys Gly Asp Gln Phe Leu Ser Val Pro Ser Pro Phe Thr
 385 390 395 400
 Trp Ser Lys Pro Lys Pro Gly His Thr Pro Ile Phe Arg Thr Ser Ser
 405 410 415

Leu Pro

<210> 11
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 <212> PRT
 <213> Homo sapiens

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 20 25 30
 Glu Glu Leu Asp Ser Glu Asp Ala Pro Pro Cys Cys Arg Leu Ala Leu
 35 40 45
 Gly Glu Pro Pro Pro Tyr Gly Ala Ala Pro Ile Gly Ile Pro Arg Pro
 50 55 60
 Pro Pro Pro Arg Pro Gly Met His Ser Pro Pro Arg Pro Ala Pro
 65 70 75 80
 Ser Pro Gly Thr Trp Glu Ser Gln Pro Ala Arg Ser Val Arg Leu Gly
 85 90 95
 Gly Pro Gly Gly Gly Ala Gly Gly Ala Gly Gly Gly Arg Val Leu Glu
 100 105 110

02 Cys Pro Ser Ile Arg Ile Thr Ser Ile Ser Pro Thr Pro Glu Pro Pro
 115 120 125
 Ala Ala Leu Glu Asp Asn Pro Asp Ala Trp Gly Asp Gly Ser Pro Arg
 130 135 140
 Asp Tyr Pro Pro Pro Glu Gly Phe Gly Gly Tyr Arg Glu Ala Gly Ala
 145 150 155 160
 Gln Gly Gly Gly Ala Phe Phe Ser Pro Ser Pro Gly Ser Ser Ser Leu
 165 170 175
 Ser Ser Trp Ser Phe Phe Ser Asp Ala Ser Asp Glu Ala Ala Leu Tyr
 180 185 190
 Ala Ala Cys Asp Glu Val Glu Ser Glu Leu Asn Glu Ala Ala Ser Arg
 195 200 205
 Phe Gly Leu Gly Ser Pro Leu Pro Ser Pro Arg Ala Ser Pro Arg Pro
 210 215 220
 Trp Thr Pro Glu Asp Pro Trp Ser Leu Tyr Gly Pro Ser Pro Gly Gly
 225 230 235 240
 Arg Gly Pro Glu Asp Ser Trp Leu Leu Leu Ser Ala Pro Gly Pro Thr
 245 250 255
 Pro Ala Ser Pro Arg Pro Ala Ser Pro Cys Gly Lys Arg Arg Tyr Ser
 260 265 270
 Ser Ser Gly Thr Pro Ser Gly Ala Ser Pro Ala Leu Ser Arg Arg Gly
 275 280 285
 Ser Leu Gly Glu Glu Gly Ser Glu Pro Pro Pro Pro Pro Pro Leu Pro
 290 295 300
 Leu Ala Arg Asp Pro Gly Ser Pro Gly Pro Phe Asp Tyr Val Gly Ala
 305 310 315 320
 Pro Pro Ala Glu Ser Ile Pro Gln Lys Thr Arg Arg Thr Ser Ser Glu
 325 330 335
 Gln Ala Val Ala Leu Pro Arg Ser Glu Glu Pro Ala Ser Cys Asn Gly
 340 345 350
 Lys Leu Pro Leu Gly Ala Glu Glu Ser Val Ala Pro Pro Gly Gly Ser
 355 360 365
 Arg Lys Glu Val Ala Gly Met Asp Tyr Leu Ala Val Pro Ser Pro Leu
 370 375 380
 Ala Trp Ser Lys Ala Arg Ile Gly Gly His Ser Pro Ile Phe Arg Thr
 385 390 395 400
 Ser Ala Leu Pro